passive safety pen device would result in total estimated cost savings of $17,865.40 annually. **CONCLUSIONS:** The implementation of insulin pen devices in acute care results in cost savings, as well as time savings for nurses that may be re-directed to increased time at the patient bedside.

PDB113

EPIDEMIOLOGY AND DIRECT HEALTH CARE COSTS OF DIABETIC RETINOPATHY: RESULTS FROM A POPULATION-BASED STUDY

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OBJECTIVES: The aim of this study was to assess the epidemiologic and economic burden of diabetic retinopathy (DR) in terms of incidence, treatment patterns and cost by a population-based study. **METHODS:** Eligible patients were identified through a data warehouse (DENALI), which matches demographic, clinical and economic data of about 9.9 million individuals of Lombardy region. The study population consists of all individuals with a diagnosis of diabetes who, during the period 1-1-2000 to 31-12-2010 received one of the following health care services: hospital admission (HA) for diabetes with ophthalmic manifestations or retinal disorders, fluorescein angiography or angioscopy of eye, destruction of chorioretinal lesion, repair of retinal tear, injection of vitreous substitute, and repeated ophthalmic examinations. The study population was followed for a minimum of 1 to a maximum of 10 years. We evaluated demographic characteristics of the study population and costs from the National Health Service's perspective. **RESULTS:** The 2000-2010 DR population was estimated to be around 127,000 (52% male). The average incidence per year and the 2010-prevalence were 6.1 and 24.2 per 100 diabetic patients. Median age (min-max) at the index event was 68.6 (0.3-104.4) with 37% younger than 65-years. Around 15% of the population had Charlson Comorbidity Index>=1 and the overall mortality was 41.8 deaths/100 patient-years. The 10-year mean cost for DR patients were 17,361€ (95%C.I. 12,673-22,050) compared with 4,771€ in a control diabetic population without complications. HA costs represented the driver of total costs, ranging from 45% (index year) to 36% (last year of follow-up), followed by drug (30-34.4%) and outpatient (25-29.7%). During the index year 13% of HA and outpatient costs were attributed to eye-specialist departments. Approximately 1% received intravitreal injections in 2010. **CONCLUSIONS:** This study attempted to describe the burden of DR in Italy revealing socio-economic aspects relevant in terms of incidence and costs.

PDB114

EVALUATION OF THE BURDEN OF ILLNESS OF U.S. MEDICARE PATIENTS DIAGNOSED WITH HYPERPOTASSEMIA

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OBJECTIVES: To evaluate the economic burden and health care utilization of patients diagnosed with hyperpotassemia in the U.S. Medicare population. **METHODS:** Hyperpotassemia patients (International Classification of Disease 9thRevision Clinical Modification ICD-9-CM diagnosis codes 276.7) were identified from the U.S. national Medicare claims from 01JAN2009 through 31DEC2011. The first diagnosis date was designated as the index date for the hyperpotassemia cohort. Patients without a hyperpotassemia diagnosis but of the same age, region, gender, index year and matched baseline Charlson Comorbidity Index score were identified for the comparison cohort, with a randomly-chosen index date to minimize selection bias. Patients were required to have continuous medical and pharmacy benefits 1 year before and after the index date. Study outcomes (health care costs and utilizations) were compared between the disease and comparator cohorts using 1: 1 propensity score matching (PSM). **RESULTS:** A total of 90,528 patients were included in the hyperpotassemia and comparison cohorts. After 1: 1 PSM, 28,929 patients were matched from each cohort, and baseline characteristics were proportionate. Patients diagnosed with hyperpotassemia were more likely to utilize health care resources, including Medicare carrier (98.4% vs. 77.8%), Durable Medical Equipment (DME; 36.7% vs. 23.6%) and Home Health Agency (HHA; 18.4% vs. 7.3%) claims, outpatient visits (75.5% vs. 47.7%), inpatient (37.4% vs. 3.4%), skilled nursing facility (SNF, 13.3% vs. 3.4%) and hospice stays (1.1% vs. 0.8%) and prescription drug claims (54.1% vs. 50.7%). Patients diagnosed with hyperpotassemia also incurred higher Medicare carrier ($3,447 vs. $1,636), DME ($343 vs. $167), HHA ($938 vs. $412), outpatient ($11,006 vs. $4,534), inpatient ($7,156 vs. $1,463), SNF ($2,688 vs. $612), hospice ($244 vs. $198), pharmacy ($1,104 vs. $812) and total costs ($26,926 vs. $9,834) ($p<0.05$). **CONCLUSIONS:** The economic burden and health care resource utilization were significantly higher for patients diagnosed with hyperpotassemia.

PDB115

COSTS OF HOSPITALIZATION OF TYPE 2 DIABETIC PATIENTS ASSOCIATED WITH SEVERE HYPOGLYCEMIA

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OBJECTIVES: HIPOS-ER is an observational, cross-sectional, multicenter study aimed (a) to describe type 2 diabetes patients treated with an anti-hyperglycemic agent (AHA) and admitted to the emergency room (ER) due to a hypoglycemic event and (b) to estimate health care resources use and its costs related with the ER hypoglycemic episode. In this analysis, costs within hospitalized patients following severe hypoglycemia assisted at the ER were specifically calculated. **METHODS:** The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan 2013 – Jan 2014). Costs related with these hospitalized patients were calculated considering the hospital perspective. Unit costs for 2014 were extracted from official sources and reported in euros. Patient level data were used to calculate average costs. Regarding ER attendance, costs were calculated multiplying resource use by corresponding unit costs. Regarding hospitalization, length of stay was multiplied by daily cost obtained through hospitals accountancy. Both costs were summed and descriptive statistics were calculated. Productivity loss cost within ER admission and hospitalization was calculated for employed patients using the Human Capital Approach. **RESULTS:** 238 patients were enrolled and 105 (44%) were hospitalized. These patients had a median length of stay of 5.4 days and were most commonly hospitalized at the Internal Medicine department (n=80; 76%). Nine patients (8.6%) died during hospitalization. Hospitalized patients had the following average (range) costs: pre-hospital care and transport €34 (€0-€92); emergency room €218 (€58-€1,348); hospitalization €2,880 (€140-€26,486); productivity loss costs due to ER and hospitalization €31 (€0-€1,579). Thus, mean total cost per hypoglycemic event leading to hospitalization was €3,163 (€230-€26,818). **CONCLUSIONS:** We conclude that severe hypoglycemia represent a substantial cost to Society and to the public hospitals of the National Health System in particular for those cases requiring hospitalization.

PDB116

THE HEALTH SERVICE AND ECONOMIC IMPACT OF GLUCAGON RESCUE ADMINISTRATION DURING SEVERE HYPOGLYCEMIC EVENTS

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OBJECTIVES: Hypoglycemia, which if left untreated, can be severe and result in seizures, unconsciousness, and coma, during which another person's help is required to administer a rescue dose of glucagon. Injectable glucagon kits are difficult to use and require training to administer. This study aimed to quantify the economic impact of using glucagon kits on resource use and costs, and identify evidentiary gaps requiring future research. **METHODS:** A conceptual model was developed illustrating the series of events resulting from a SHE: successful administration of glucagon, ambulance calls, transport to the ED, inpatient admission, and outpatient follow-up. A literature search was conducted to assess service use and costs associated with severe hypoglycemia events (SHE). English language articles were reviewed in PubMed, EMBASE and Cochrane databases. **RESULTS:** Resource use associated with SHE, as a function of successful administration of glucagon, has not been systematically evaluated in the literature. Uncertainty exists for the probability of receiving a glucagon prescription for diabetics and successful use of glucagon kits. Furthermore, based on successful administration of glucagon, the probability of ambulance calls, transports to the ED, inpatient admissions, and frequency of outpatient follow-up are lacking in the literature. **CONCLUSIONS:** Diabetes is a costly condition for payers, and a common complication is hypoglycemia. Glucagon kits are effective in stabilizing diabetics' blood glucose levels during SHE; however, oftentimes physicians do not prescribe, patients do not fill, or caregivers do not successfully administer glucagon due to the complex administration procedures. As less complicated glucagon products are developed, their value propositions must be informed by the economic implications resulting from the complex administration requirements of current kits. However, the current literature does not systematically evaluate these implications. Consequently, future research is needed to quantify the impact of non-successful administration of glucagon rescue kits, as well as the extent of under-utilization.

PDB117

HIPOS-ER (HYPOGLYCEMIA IN PORTUGAL OBSERVATIONAL STUDY – EMERGENCY ROOM): COSTS AND HEALTH CARE RESOURCE CONSUMPTION DATA

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OBJECTIVES: HIPOS-ER is an observational, cross-sectional, multicenter national study to describe the patient population of type 2 diabetics with hypoglycemic episodes that enter the emergency department caused by an anti-hyperglycemic agent (AHA). A key secondary objective is to estimate health care resource consumption and costs associated with this type of hypoglycemias. **METHODS:** The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan2013-Jan2014). Patient level data and resource utilization were collected. Average costs were assessed by multiplying 2014 unit costs (available from public sources) with all relevant health care resource consumption items registered in the emergency room following the hypoglycemia events and through hospital accountancy for the hospitalized patients (length of stay x daily mean cost of hospitalization). **RESULTS:** The study enrolled 238 patients and the calculated proportion of hypoglycemic episodes among all emergency events in the same period was 0.075% (95%CI: 0.067%, 0.083%). In this population, 55.0% of the patients were using insulin, 31.5% were treated with a secretagogue, 6.7% were on a combination of insulin and a secretagogue oral agent and 6.7% were on oral non-secretagogue based AHA therapy. Mean patient age was 76 years and 57.6% were females. Estimated mean (range) of direct costs assessed in the emergency room were: emergency transportation €33 (€0-€92), drugs €4 (€0-€45), laboratory workup 56€ (€8-€212), other exams €72 (€0-€944), physician and nurse time €30 (€4-€211) and €14 (€1-€90), respectively. Mean hospitalization cost was €1,271 (€0-€26,486). Mean indirect cost related with productivity loss within employed patients was €15 (€0-€1,579). Total cost, including direct and indirect costs, was €1,493 (€34-€26,818) per hypoglycemic event. Hospitalization was the main cost driver (85% of total costs). **CONCLUSIONS:** We conclude that hypoglycemia represent a substantial cost for the Society and in particular for the public hospitals of the National Health System.

PDB118

COST ANALYSIS OF SEVERE HYPOGLYCEMIA IN TREATED TYPE 2 DIABETIC PATIENTS ACCORDING TO ANTI-HYPERGLYCEMIC AGENT THERAPY

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